## NATURAL RESOURCES CONSERVATION SERVICE

# DOCUMENTATION REQUIREMENTS

# MANURE TRANSFER (634)

## FIELD DATA

The following is a list of the minimum field data to be collected:

1. Typically, manure transfer systems are designed and constructed as part of a waste storage facility. Much of the same field data is needed. Refer to the documentation requirements for Waste Storage Facility (313);
2. Distances and elevations of sources of waste, storage facilities, treatment facilities, and utilization areas, as applicable;
3. Consistency of manure and type of bedding have profound influence on the methods and success of manure transfer alternatives, therefore detailed information is required;
4. Additional soils investigations, as needed, at location of pipelines, reception pits, etc if not performed with the waste storage facility investigation;
5. If a gravity outlet pipe is proposed, a detailed evaluation of the downstream water quality impacts due to an accidental release shall be done.

## DESIGN DATA

The following is a list of the minimum required design data:

1. This component must be included in the Waste Management System Plan;
2. For gravity transfer components:
   - Sizing and design of gravity drop structure;
   - Design of gravity transfer pipes including velocity, minimum head requirements, maximum lengths, number and spacing of cleanouts, strength and pressure rating of pipe, and other requirements as described in the practice standard;
   - For waste water siphon stations, the design of the tank, siphon, and transfer pipe to dose the treatment area as required by the practice standard for the treatment facility;
   - Special requirements for valves and other appurtenant features.
3. For pumped transfer components:
   - Sizing and design of the reception pit;
   - Type, volume and head requirements of the waste transfer pump, including features to prevent backflow, freezing, etc.;
   - Design of the transfer pipe, including the size, strength and pressure rating requirements;
   - For waste water pump stations where waste water is to be pumped to a treatment area, the design of the tank, transfer pump, and transfer pipe to dose the treatment area as required by the practice standard for the treatment facility.
4. If a standard design or manufacturer's approved design is to be used, all site conditions, assumptions, and requirements of the standard or manufacturer's design must be met;
5. Refer to the Waste Storage Facility (313) standard for storage structure requirements and documentation needs for reception pits, gravity drop structures, etc;
6. Safety measures;
7. Construction drawings shall include the following as a minimum:
   - See the requirements for Waste Storage Facilities. In addition, include any required details of transfer components, pipe joints, pipe bedding, trench widths, etc;
   - Profile of pipes, hoppers, tanks, siphons, and waste storage facility as applicable;
   - Include approved standard or manufacturer's drawings;
   - Quantities of materials.

8. Construction and material specifications, including specifications from manufacturers;
9. Written Operation and Maintenance (O&M) plan. This plan would normally include operational requirements (timing of transfer, labor and time requirements, etc), references to operation manuals, and safety measures.

## PRE-CONSTRUCTION & INSPECTION

1. Preconstruction Meeting With Landowner And Contractor. This is a meeting to explain the drawings and specifications, discuss requirements for construction and material certifications, level of staking needed, safety issues, utilities notification, and other topics. Document the following as a minimum:
   - Time and date of meeting;
   - Names of attendees;
   - Items discussed and decisions made.
2. Layout And Staking Of Practices. Document:
   - Survey notes showing layout of the practices, including date and who performed the staking;
   - If the contractor provides staking, then document any reviews made to ensure proper placement of the practice.
3. Utilities Notification. Can use form ENG-5 and ENG-6 to assist in tracking utility notifications (See NEM §MA503). Document:
   - Initial discussion with landowner about his or her responsibility to notify utilities;
   - Information from landowner about existence and location of known utilities;
   - Assurances that utility company has been notified, including staking by utilities.
4. Inspection During Construction. Document:
   - All inspections made during construction, including all those identified on the drawings as critical inspection items;
   - Include visual inspections and conclusions, surveys, tests and test results;
   - Discussions with landowner and contractor;
   - Photographs taken before and during construction;
   - Approval by designer of any changes from the drawings or specifications before implementation of the change.

## CONSTRUCTION CHECK

The following is a list of the minimum required data to support the as-built drawing:

1. Actual dimensions and elevations of installed structures;
2. Proper installation of all safety devices and features;
3. Name of pipe, tank, or other material manufacturer, product names, sizes, material, pressure rating, and applicable specifications (ASTM, for example);
4. Installed lengths and elevations of pipelines; verification of proper pipe bedding, installation, and joint requirements; and installation of all valves and required appurtenances;
5. Verification of adequate foundation conditions and preparation;
6. Documentation of proper installation of reinforcing steel and placement, curing, and protection of concrete, if applicable;
7. Adequacy of seeding of disturbed areas;
8. Include statement of those items installed and certified by manufacturer or suppliers.

## CERTIFICATION

The following is a list of what must be certified by a person with the required approval authority for the installed practice:

1. Final quantities and documentation for quantity changes;
2. Statement on the as-built drawings that the installed practices meet or exceed the requirements of the NRCS practice standards;
3. Record in the case file the number of waste transfer systems installed;
4. Report in PRMS, as applicable.